Knowledge-Based SYSTEMS

Index to Volume 8 (1995)

No 1 (February) pp 1–64
No 2/3 (April/June) pp 65–152
No 4 (August) pp 153–232
No 5 (October) pp 233–296
No 6 (December) pp 297–396

Article index

Number 1

Context interchange: a lattice based approach
M. P. Reddy and A. Gupta 5
Model for exploiting associative matching in AI production systems
N. K Kasabov, S. H. Lavington, S. Lin and C. Wang 14
Hybrid knowledge-based architecture for building an intelligent nondestructive signal inspection system
S. J. Kang and Y. R. Kwon 21
Case-based reasoning for AIDS initial assessment
L. D. Xu 32
Cooperating knowledge-based systems for environmental decision support
N. M. Avouris 39
Knowledge-based cabin crew pattern generator
L.-F. Kwok, S.-L. Hung and C.-C Pun 55

Number 2/3

Overview of human–computer collaboration
L. G. Terveen 67
Structuring collaborative information-seeking dialogues
A. Stein and E. Maier 82
Intertwining knowledge delivery and elicitation: a process model for human–computer collaboration in design
K. Nakakoji and G. Fischer 94
Testing collaborative strategies by computational simulation: cognitive and task effects
M. A. Walker 105
Cognitive cooperation through visual interaction
E. Rogers 117
Misunderstanding and the negotiation of meaning using abduction
S. W. McRoy 126
Embedding languages within design environments
M. Eisenberg 135
Interaction and feedback in a spoken language system: a theoretical framework
S. E. Brennan and E. A Hulteen 143

Number 4

Graph reduction implementation of a production system
S. Murrell and R. Plant 155
Expert system approach to electroencephalogram signal processing
M. T. Hellyar, E. C. Ifeachor, D. J. Mapps, E. M. Allen and N. R. Hudson 164
Towards a fuzzy logic programming system: a clausal form fuzzy logic
P. C. Rhodes and S. Merad-Menani 174
Using neural networks as a tool for constructing rule based systems
G. P. Fletcher and C. J. Hinde 183
Learning word syntactic subcategorizations interactively
F. Gomez 190
Advanced binary encoded matrix representation for rule base verification
F. Coenen 201
A way of designing knowledge based systems
S. Ohsuga 211
Knowledge acouisition for medical diagnosis systems
A. Armoni 223

Number 5

Problem solving strategies for open information systems
R. Kaula 235
Use of maximum entropy method as a methodology for probabilistic reasoning
P. C. Rhodes and G. R. Garside 249
Constructive knowledge engineering
M. J. Elliot, H. T. Bull, C. I. Pulford, N. R. Shadbolt and W. Smith 259
Towards quality control for knowledge-based systems development
R. Clarke and H. Soltan 269
Extensible organization of property descriptions in object modelling for engineering design
J. Zucker and A. Demaid 279

Number 6

Introduction to knowledge-based neural networks
L. Fu 299
Dynamically adding symbolically meaningful nodes to knowledge-based neural networks
D. W. Opitz and J. W. Shavlik 301
Recurrent neural networks and prior knowledge for sequence processing: a constrained nondeterministic approach
P. Frasconi, M. Gori and G. Soda 313
Initialization of neural networks by means of decision trees
I. Ivanova and M. Kubat 333
Extension of the temporal synchrony approach to dynamic variable binding in a connectionist inference system
N. S Park, D. Robertson and K. Stenning 345
Hybrid modeling in pattern recognition and control
J. C. Bezdek 359
Survey and critique of techniques for extracting rules from trained artificial neural networks
R. Andrews, J. Diederich and A. B.Tickle 373

Author index

Allen, E. M. 164
Andrews, R. 373
Armoni, A. 223
Avouris, N. M. 39

Bezdek, J. C. 359
Brennan, S. E. 143
Bull, H. T. 259

Clarke, R. 269
Coenen, F. 201

Demaid, A. 279
Diederich, J. 373

Eisenberg, M. 135
Elliot, M. J. 259

Fischer, G. 94
Fletcher, G. P. 183
Frasconi, P. 313
Fu, L. 299

Garside, G. R. 249
Gomez, F. 190
Gori, M. 313
Gupta, A. 5

Hellyar, M. T. 164
Hinde, C. J. 183
Hudson, N. R. 164
Hulteen, E. A. 143
Hung, S.-L. 55

Ifeachor, E. C. 164
Ivanova, I. 333

Kang, S. J. 21
Kasabov, N. K. 14
Kaula, R. 235
Kubat, M. 333
Kwok, L.-F. 55
Kwon, Y. R. 21

Lavington, S. H. 14
Lin, S. 14

Maier, E. 82
Mapps, D. J. 164
McRoy, S. W. 126
Merad-Menani, S. 174
Murrell, S. 155

Nakakoji, K. 94

Ohsuga, S. 211
Opitz, D. W. 301

Park, N. S. 345
Plant, R. 155
Pulford, C. I. 259
Pun, C.-C. 55

Reddy, M. P. 5
Rhodes, P. C. 174, 249
Robertson, D. 345
Rogers, E. 117

Shadbolt, N. R. 259
Shavlik, J. W. 301
Smith, W. 259
Soda, G. 313
Soltan, H. 269
Stein, A. 82
Stenning, K. 345

Terveen, L. G. 67
Tickle, A. B. 373

Walker, M. A. 105
Wang, C. 14

Xu, L. D. 32

Zucker, J. 279

Keyword index

Abduction
Core language, Dialogue 126
Accuracy
Knowledge acquisition, Consistency, Medical diagnosis, Knowledge bases 223
Agents
Speech, Dialog, Feedback, Repair, Telephony 143
ALICE system
Parallel processing, Graph reduction, Production systems 155
Applications
Programmable design environments, Complexity 135
Associative matching
Production systems, Content-addressable memory 14

Binary encoded incidence matrices
Rule base verification 201
Brewing
Knowledge engineering, Knowledge acquisition 259

Cabin crew planning
Hybrid knowledge representation 55
Case-based reasoning
Fuzzy set theory, Health care 32
Collaboration
Communication, Simulation 105
Communication
Collaboration, Simulation 105
Complexity
Programmable design environments, Applications 135
Computational biology
Network-growing algorithms, Theory refinement, KBANN algorithm 301
Computational reasoning
Fuzzy clausal logic, Fuzzy theorem prover, Predicates, Qualifiers 174
Connectionist knowledge representation
Connectionist rule-based systems, Dynamic variable bindings, Hybrid systems 345
Connectionist rule-based systems
Connectionist knowledge representation,

Dynamic variable bindings, Hybrid systems 345
Consistency
Knowledge acquisition, Accuracy, Medical diagnosis, Knowledge bases 223
Content-addressable memory
Production systems, Associative matching 14
Context exchange
Semantic interoperability, Lattice theory 5
Cooperating knowledge-based systems
Distributed artificial intelligence, Environmental management 39
Cooperative systems
Intelligent assistance, Man–machine cooperation 117
Core language
Abduction, Dialogue 126

Decision-tree generators
Neural networks 333
Design
Knowledge delivery, Elicitation 94
Dialog
Speech, Feedback, Repair, Agents, Telephony 143
Dialogue
Abduction, Core language 126
Dialogue modelling
Discourse theory, Human–computer collaboration 82
Discourse theory
Dialogue modelling, Human–computer collaboration 82
Distributed artificial intelligence
Cooperating knowledge-based systems, Environmental management 39
Distributed problem solving
Open information systems, Inference control mechanisms 235
Dynamic variable bindings
Connectionist rule-based systems, Connectionist knowledge representation, Hybrid systems 345

Electroencephalograms
Ocular artefacts, Intelligent signal processing 164
Elicitation
Design, Knowledge delivery 94
Engineering design
Object-oriented information systems, Property descriptions, Information modelling, Extensible organization 279
Environmental management
Distributed artificial intelligence, Cooperating knowledge-based systems 39
Extensible organization
Object-oriented information systems, Engineering design, Property descriptions, Information modelling 279

Feedback
Speech, Dialog, Repair, Agents, Telephony 143
Fuzzy clausal logic
Computational reasoning, Fuzzy theorem prover, Predicates, Qualifiers 174
Fuzzy control
Neural networks, Numerical pattern recognition, Signal processing, Syntactic pattern recognition 359
Fuzzy neural networks
Rule extraction, Rule refinement, Knowledge insertion, Inferencing 373
Fuzzy set theory
Case-based reasoning, Health care 32
Fuzzy theorem prover
Computational reasoning, Fuzzy clausal logic, Predicates, Qualifiers 174

Graph reduction
Parallel processing, Production systems, ALICE system 155

Health care
Case-based reasoning, Fuzzy set theory 32
Human–computer collaboration
Discourse theory, Dialogue modelling 82
Human–computer dialogue, Problem solving, Natural language understanding 211
Human computer collaboration 67
Human–computer dialogue
Human–computer collaboration, Problem solving, Natural language understanding 211
Hybrid knowledge-base architecture
Intelligent signal inspection systems, Syntactic pattern recognition 21
Hybrid knowledge representation
Cabin crew planning 55
Hybrid systems
Connectionist rule-based systems, Connectionist knowledge representation, Dynamic variable bindings 345

Inference control mechanisms
Open information systems, Distributed problem solving 235
Inferencing
Fuzzy neural networks, Rule extraction, Rule refinement, Knowledge insertion 373
Information modelling
Object-oriented information systems, Engineering design, Property descriptions, Extensible organization 279
Intelligent assistance
Cooperative systems, Man–machine cooperation 117
Intelligent signal inspection systems
Hybrid knowledge-base architecture, Syntactic pattern recognition 21
Intelligent signal processing
Electroencephalograms, Ocular artefacts 164

KBANN algorithm
Network-growing algorithms, Theory refinement, Computational biology 301
Knowledge acquisition
Accuracy, Consistency, Medical diagnosis, Knowledge bases 223
Knowledge engineering, Brewing 259
Knowledge-based neural networks
299
Knowledge bases
Knowledge acquisition, Accuracy, Consistency, Medical diagnosis 223
Knowledge delivery
Design, Elicitation 94
Knowledge engineering
Knowledge acquisition, Brewing 259
Knowledge insertion
Fuzzy neural networks, Rule extraction, Rule refinement, Inferencing 373

Lattice theory
Semantic interoperability, Context exchange 5
Learning
Natural language processing, Syntactic subcategorizations, Parsing 190

Man–machine cooperation
Cooperative systems, Intelligent assistance 117
Maximum entropy
Probabilistic reasoning, Reasoning with incomplete information, Probability, Reasoning under uncertainty 249
Medical diagnosis
Knowledge acquisition, Accuracy, Consistency, Knowledge bases 223

Natural language processing
Syntactic subcategorizations, Parsing, Learning 190
Natural language understanding
Human–computer collaboration, Human–computer dialogue, Problem solving 211
Network-growing algorithms
Theory refinement, KBANN algorithm, Computational biology 301
Neural networks
Decision-tree generators 333
Fuzzy control, Numerical pattern recognition, Signal processing, Syntactic pattern recognition 359
Rule interpretation, Rule induction 183
Nondeterministic finite automata
Recurrent neural networks, Prior knowledge, Rule insertion 313
Numerical pattern recognition
Fuzzy control, Neural networks, Signal processing, Syntactic pattern recognition 359

Object-oriented information systems
Engineering design, Property descriptions, Information modelling, Extensible organization 279
Ocular artefacts
Electroencephalograms, Intelligent signal processing 164
Open information systems
Distributed problem solving, Inference control mechanisms 235

Parallel processing
Graph reduction, Production systems, ALICE system 155
Parsing
Natural language processing, Syntactic subcategorizations, Learning 190
Predicates
Computational reasoning, Fuzzy clausal logic, Fuzzy theorem prover, Qualifiers 174
Prior knowledge
Recurrent neural networks, Rule insertion, Nondeterministic finite automata 313
Probabilistic reasoning
Maximum entropy, Reasoning with incomplete information, Probability, Reasoning under uncertainty 249
Probability
Probabilistic reasoning, Maximum entropy, Reasoning with incomplete information, Reasoning under uncertainty 249
Problem solving
Human–computer collaboration, Human–computer dialogue, Natural language understanding 211
Production systems
Content-addressable memory, Associative matching 14
Parallel processing, Graph reduction, ALICE system 155
Programmable design environments
Applications, Complexity 135
Project management
Quality control, Quality factors, Quality planning 269
Property descriptions
Object-oriented information systems, Engineering design, Information modelling, Extensible organization 279

Qualifiers
Computational reasoning, Fuzzy clausal logic, Fuzzy theorem prover, Predicates 174
Quality control
Quality factors, Quality planning, Project management 269
Quality factors
Quality control, Quality planning, Project management 269
Quality planning
Quality control, Quality factors, Project management 269

Reasoning under uncertainty
Probabilistic reasoning, Maximum entropy, Reasoning with incomplete information, Probability 249
Reasoning with incomplete information
Probabilistic reasoning, Maximum entropy, Probability, Reasoning under uncertainty 249
Recurrent neural networks
Prior knowledge, Rule insertion, Nondeterministic finite automata 313
Repair
Speech, Dialog, Feedback, Agents, Telephony 143
Rule base verification
Binary encoded incidence matrices 201
Rule extraction
Fuzzy neural networks, Rule refinement, Knowledge insertion, Inferencing 373
Rule induction
Neural networks, Rule interpretation 183
Rule insertion
Recurrent neural networks, Prior knowledge, Nondeterministic finite automata 313
Rule interpretation
Neural networks, Rule induction 183
Rule refinement
Fuzzy neural networks, Rule extraction, Knowledge insertion, Inferencing 373

Semantic interoperability
Context exchange, Lattice theory 5
Signal processing
Fuzzy control, Neural networks, Numerical pattern recognition, Syntactic pattern recognition 359
Simulation
Collaboration, Communication 105
Speech
Dialog, Feedback, Repair, Agents, Telephony 143
Syntactic pattern recognition
Hybrid knowledge-base architecture, Intelligent signal inspection systems 21
Fuzzy control, Neural networks, Numerical pattern recognition, Signal processing 359
Syntactic subcategorizations
Natural language processing, Parsing, Learning 190

Telephony
Speech, Dialog, Feedback, Repair, Agents 143
Theory refinement
Network-growing algorithms, KBANN algorithm, Computational biology 301

Calendar **64, 152, 227, 291**

Editorial **3, 298**